

ABSTRACT OF THE DISCLOSURE

An optical network comprises a central source providing light in a plurality of spaced wavelength bands and including variable-gain optical amplifiers enabling the relative intensity of light in respective wavelength bands to be varied. A wavelength-routed network
5 (preferably but not necessarily passive) receives light in all the wavelength bands from the central source and routes each wavelength band to a respective terminals. The terminals are operable to modulate and return received light in any of the said wavelength bands, and may be simple and identical, requiring no precision light source, as would otherwise be needed to allow multiplexing to use optical fibre efficiently. The operator can adjust the
10 semiconductor optical amplifiers to illuminate or disable individual terminals, as required, and can alter the intensity (and if required type) of light supplied to the terminals to maintain a satisfactory signal level, minimising need for engineer visits.